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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/929,037	08/15/2001	Toru Koizumi	35.C15698	1876

5514 7590 01/26/2006

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EXAMINER

QUIETT, CARRAMAH J

ART UNIT PAPER NUMBER

2612

DATE MAILED: 01/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/929,037

Applicant(s)

KOIZUMI ET AL.

Examiner

Carramah J. Quiett

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 November 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) 9-16 and 21-24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8, 17-20 and 25-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Amendment***

1. The amendment(s), filed on 11/14/2005, have been entered and made of record. Claims 1-27 are pending.

### ***Drawings***

2. The drawings were received on 12/09/2005. These drawings are acceptable.

### ***Specification***

3. The amendments to the specification were received on 11/14/2005. These amendments are acceptable.

### ***Response to Arguments***

4. Applicant's arguments filed 11/14/2005 have been fully considered but they are not persuasive.

As quoted in Applicants' Remarks, "...Applicants stress that the elected independent claims require a driving circuit, which is not disclosed or suggested by the cited Gowda patent. As pointed out in the Office Action, the driving circuit disclosed by Gowda is the element 14 as shown in Fig. 3 and described at lines 27-62 in column 4 of Gowda. However, Applicants submit that the referenced Gowda circuit does not correspond to the driving circuit in Applicants' claims." The Examiner respectfully disagrees. In the independent claims, the phrase, "adapted to" is used to as a limitation for the drive circuit. As discussed in the previous Office Action, The U.S. Patent and Trademark Office considers the Applicant's "*adapted to*" language to be synonymous with "capable of". The phrase "adapted to" as used in the claims broadens the scope of the claims. If a limitation is written with "adapted to..." language, a reference is

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deemed to meet that limitation if the reference discusses the same element that, although not actually performing the claimed function, is **structurally capable** of performing it.

For example, claim 1 is recited as, "...a drive circuit coupled to said pixels and adapted to output a first signal level at which said transfer switch is set in an OFF state, a second signal level at which said transfer switch is set in an ON state, and a third signal level between the first level and the second level, wherein said drive circuit controls to hold the third signal level for a predetermined time while said transfer switch is changing from the ON state to the OFF state."

In fig. 2, ref. 14 and col. 4, lines 27-61, Gowda illustrates and teaches a drive circuit. As shown in fig. 2, Gowda's drive circuit (ref. 14) is coupled to the pixels (fig. 2, ref. 14; col. 4, lines 27-62) and is therefore adapted to performing the limitations recited in claim 1. This explanation is applied to the other claims being traversed by the Applicants. Please note that the drive circuit (fig. 3, ref. 14) referred to in the previous Office Action should have been referenced to fig. 2, ref. 14. This was merely a typographical error and has been corrected in the present Office Action. Accordingly, elected claims 1-4, 5-8, 17-20, and 25-27 remain rejected using the prior art from the previous Office Action.

### ***Claim Rejections - 35 USC § 102***

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

6. **Claims 1-4, 5-8, 17-20, and 25-27** are rejected under 35 U.S.C. 102(e) as being anticipated by Gowda et al. (6,344,877).

Note: The U.S. Patent and Trademark Office considers the Applicant's "*adapted to*" language to be synonymous with "capable of". The phrase "adapted to" as used in the claims broadens the

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scope of the claims. If a limitation is written with “adapted to...” language, a reference is deemed to meet that limitation if the reference discusses the same element that, although not actually performing the claimed function, is **structurally capable** of performing it.

For **claim 1**, Gowda discloses an image pickup device (fig. 2) comprising:

a plurality of pixels (fig. 2, ref. 30; col. 4, lines 1-7) each including a photoelectric conversion unit (fig. 3, ref. 26), a semiconductor area to which a signal from said photoelectric conversion unit is transferred (col. 4, line 62 – col. 5, line 18), a transfer switch (fig. 3, ref. 22) adapted to transfer the signal from said photoelectric conversion unit to said semiconductor area (col. 5, lines 19-59), and a read unit (fig. 3, ref. 23) adapted to read out the signal from said semiconductor area (col. 5, line 50-59); and

a drive circuit (fig. 2, ref. 14; col. 4, lines 27-62) coupled to said pixels and *adapted to* output a first signal level at which said transfer switch is set in an OFF state, a second signal level at which said transfer switch is set in an ON state, and a third signal level between the first level and the second level, wherein said drive circuit controls to hold the third signal level for a predetermined time while said transfer switch is changing from the ON state to the OFF state.

For **claim 2**, Gowda discloses a device wherein said read unit includes an amplification transistor (fig. 3, ref. 23) for amplifying and outputting the signal in said semiconductor area (col. 5, lines 50-59).

For **claim 3**, Gowda discloses a device wherein said photoelectric conversion unit includes an embedded photodiode (fig. 3, ref. 26; col. 4, line 62 – col. 5, line 18).

For **claim 4**, Gowda discloses a device further comprising

an analog/digital conversion circuit (fig. 2, ref. 52) adapted to convert a signal from each of said plurality of pixels into a digital signal (col. 4, lines 12-15).

a signal processing circuit (fig. 2, ref. 44) adapted to process the signal from said analog/digital conversion circuit (col. 4, lines 59-61), and

a recording circuit (fig. 2, after ref. 44) adapted to record the signal processed by said signal processing circuit – inherently, because after ref. 44 (col. 4, lines 59-61), the image signals are transferred to processing/image storage electronics. Please see fig. 2.

For **claim 5**, Gowda discloses an image pickup device (fig. 2) comprising:

a plurality of pixels (fig. 2, ref. 30; col. 4, lines 1-7) each including a photoelectric conversion unit (fig. 3, ref. 26), a semiconductor area to which a signal from said photoelectric conversion unit is transferred (col. 4, line 62 – col. 5, line 18), a transfer switch (fig. 3, ref. 22) adapted to transfer the signal from said photoelectric conversion unit to said semiconductor area (col. 5, lines 19-59), and a read unit (fig. 3, ref. 23) adapted to read out the signal from said semiconductor area (col. 5, line 50-59); and

a drive circuit (fig. 2, ref. 14; col. 4, lines 27-62) coupled to said pixels and *adapted to* output a signal for controlling said transfer switch so that a time during which said transfer switch changes from an ON state to an OFF state becomes longer than a time during which said transfer switch changes from the OFF state to the ON state.

Regarding **claims 6-8**, these claims correspond to the apparatus claims 2-4, respectively. Therefore, claims 6-8 are analyzed and rejected as previously discussed with respect to claims 2-4, respectively.

For **claim 17**, Gowda discloses an image pickup device (fig. 2) comprising:

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a plurality of pixels (fig. 2, ref. 30; col. 4, lines 1-7) each including a photoelectric conversion unit (fig. 3, ref. 26), a semiconductor area to which a signal from said photoelectric conversion unit is transferred (col. 4, line 62 – col. 5, line 18), a transfer switch (fig. 3, ref. 22) adapted to transfer the signal from said photoelectric conversion unit to said semiconductor area (col. 5, lines 19-59), and a read unit (fig. 3, ref. 23) adapted to read out the signal from said semiconductor area (col. 5, line 50-59); and

a drive circuit (fig. 2, ref. 14; col. 4, lines 27-62) coupled to said pixels and *adapted to* output a signal adapted to control said transfer switch so that a fall speed  $V_{\text{off}}$  for changing said transfer switch from an ON state to an OFF state has a relation  $10 \text{ V}/\mu\text{sec} > V_{\text{off}}$ .

Regarding **claims 18-20**, these claims correspond to the apparatus claims 2-4, respectively. Therefore, claims 18-20 are analyzed and rejected as previously discussed with respect to claims 2-4, respectively.

Regarding **claims 25-27**, these claims are method claims corresponding to the apparatus claims 1, 5, and 17, respectively. Therefore, method claims 25-27 are analyzed and rejected as previously discussed with respect to claims 1, 5, and 17, respectively.

### ***Conclusion***

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

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MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carramah J. Quiett whose telephone number is (571) 272-7316. The examiner can normally be reached on 8:00-5:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, NgocYen Vu can be reached on (571) 272-7320. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CJQ  
January 9, 2006



NGOC-YEN VU  
PRIMARY EXAMINER